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(54) **Sliding-type mobile terminal with a pivotable cradle**

Mobiles ausziehbares Endgerät mit drehbarem Ständer

Terminal mobile de type coulissant doté d'un bâti pivotable

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## Description

### BACKGROUND OF THE INVENTION

#### Field of the Invention:

**[0001]** The present invention relates to a mobile terminal such as a DMB phone, a game phone, a chatting phone, a camera phone, a MP3 phone, a cellular phone, a PCS, a PDA (Personal Digital Assistant), and a HHP (Hand Held Phone). More particularly, the present invention relates to a cradling mechanism for a mobile terminal.

#### Description of the Related Art:

**[0002]** Originally, mobile terminals were intended to enable users to communicate with others through radio communications. Recently, however, they have been developed to accommodate various requirements for multimedia and internet environments, in addition to basic voice communication. Further, mobile terminals have become more compact, lighter, and slimmer. Conventional mobile terminals may be classified as bar-types, flip-types, or folder-types according to the structure of their external housing. A bar-type terminal has a single bar-like housing, a flip-type terminal has a flip which is hinged to a bar-like housing, and a folder-type terminal has a folder which is hinged to a bar-like housing. Mobile terminals may also be classified as neck wearable type terminals (which are worn around the neck) or wrist wearable type terminals (which are worn around the wrist). In addition, mobile terminals may be classified as rotation-type or sliding-type terminals. A rotation-type terminal consists of two housing parts that may be turned relative to each other for opening or closing while maintaining the face-to-face contacting relationship of the housing parts. A sliding-type terminal consists of two housing parts that may be slid longitudinally relative to each other for opening or closing. Finally, mobile terminals have been developed to exchange large amounts of data at high speed.

**[0003]** Conventional mobile terminals have various drawbacks. For example, if the user wishes to watch the display of a mobile terminal that is resting on a table, it is desirable to have an additional support for supporting the mobile terminal in a slanted position to improve the viewing angle. Moreover, when a user wishes to enjoy a moving picture displayed on the screen of the mobile terminal that is resting on a table, he must be satisfied both visually and acoustically. In this case, it is important to support the mobile terminal in a slanted position because both visual and acoustic effects are most effective in that position.

**[0004]** Typically, the battery charger of a mobile terminal has served as a cradle for supporting the mobile terminal on a table in a slanted position during the charging process. However, the battery charger is too cumbersome for the user to carry to use it as a cradle outside of

home.

**[0005]** Accordingly, there is a need for an improved mobile terminal with a cradle for supporting the mobile terminal in a slanted (e.g., inclined) position.

5 **[0006]** US 4878237 discloses a shoulder cradle for supporting a cellular car phone on the shoulder of a vehicle operator is provided. The shoulder cradle is fitted onto the cellular car phone to permit access to the cellular car phone dial keyboard when the shoulder cradle is not  
10 being utilized to support the car phone on the shoulder of the phone user. When the shoulder cradle is being utilized to support the car phone on the shoulder of the phone user, the shoulder cradle covers a substantial portion of the area occupied by the dial keyboard on the car  
15 phone.

**[0007]** EP1594293 discloses a sliding/swing-type portable apparatus having a self-retaining function includes a main body; a battery cover coupled to the bottom surface of the main body in a predetermined position so that  
20 it can rotate about a first hinge axis toward or away from the main body and provided with a folding force, at less than a first angle relative to the bottom surface of the main body, in such a direction that it is folded on the main body, an unfolding force at the first angle or more, and a  
25 retaining force at a second angle for retaining the main body in an upright position, at a slant.

**[0008]** US6754514 discloses an apparatus comprising an antenna for transmitting and receiving radio waves, a transmitter/receiver portion including a microphone/speaker, and a flip board which covers a manipulation portion and freely opens and closes to have an opening/closing range of 270 degrees or more about an opening/closing axis at a lower portion of the flip board. The flip board may have a rotational axis for opening and closing at a lower portion of a back surface of the apparatus and cover a manipulation surface of a manipulation portion and a lower portion of the apparatus. Alternatively, the flip board may have a rotational axis for opening and closing at a lower portion of a front surface of the manipulation portion, and the angle between the manipulation surface of the manipulation portion and an edge of the lower portion of the front surface may be at 60 to 90 degrees.  
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**[0009]** WO2005/076487 relates to a slider for connecting a calling part with a receiving part of a mobile phone in accordance with the present invention connects the calling part with the receiving part of the mobile phone in sliding way, which supports a sliding opening/closing operation of the receiving part and the calling part, being  
45 installed on a sliding mobile phone for opening/closing by mutually sliding the receiving part where an LCD screen is disposed and the calling part where number keys are installed.

**[0010]** KR-B-100537698 relates to a slide hinge device provided, including: a rail hinge unit including guide bars disposed parallel to each other; and a slide hinge unit including a guide frame having a fixing portion, and slide guides having a penetration hole formed in a center, cor-  
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responding to each of the guide bars, wherein the slide guides are injection molded to the guide frame to be fixed to the guide frame by means of the fixing portion. Accordingly, since the guide frame and the slide guide are coupled with each other with molding process, a dimension error between them may be minimized and a defect rate may be reduced.

**[0011]** WO2005/09515 relates to a sliding mechanism apparatus used for slidably opening and closing a slider-type cellular phone. A guide member and a slider member are engaged with each other so as to enable to slide relative to each other. The end of one arm of a first torsion spring is connected to the slider member near the left edge thereof. The end of the other arm thereof is coupled to the right half area of the guide member. The end of one arm of a second torsion spring is connected to the slider member near the right edge thereof. The end of the other arm thereof is coupled to the left half area of the guide member. From the expanded original state of the first and second torsion springs, if an external force is exerted on the slider member or the guide member, the torsion springs are compressed into an acute angle and then spread again by means of the elastic force thereof. In this way, the slider member can move to the lowermost position or the lowermost position. In the first and second torsion springs, the distance between the ends of two arms is larger than at least half of the width of the slider member.

**[0012]** EP1496674 relates to a slide type portable terminal comprising a main unit including separated first and second key sections and a first plate coupled to a surface of the main unit and a display unit with a display screen on a front surface and a second plate. The second plate can slide with respect to the first plate and preferably slides along the surface of the main unit to cause the first and second key sections of the main unit to be covered and exposed by the display unit.

## SUMMARY OF THE INVENTION

**[0013]** An object of the present invention is to address at least the above problems and/or disadvantages and to provide at least the advantages described below. Accordingly, an object of the present invention is to provide a mobile terminal with a sliding cradle that enables the mobile terminal to be quickly and easily supported on a table. The invention is as set out in claim 1, preferred forms being set out in dependent claims 2 to 13.

**[0014]** It is another object of the present invention to provide a mobile terminal with an oblique flat lower end surface for stabilizing the position of the mobile terminal supported by the cradle on a table.

**[0015]** It is still another object of the present invention to provide a sliding guide module symmetrically arranged in the main body of a mobile terminal for stabilizing the opening and closing motion.

**[0016]** It is a further object of the present invention to provide a mobile terminal comprising a main body, a slid-

ing body, and a sliding guide module for guiding the sliding body face-to-face along the main body wherein the sliding guide module is provided with a resilient member for enabling the user to stably and manually slide the sliding body along the main body by a desired distance.

**[0017]** It is another object of the present invention to provide a mobile terminal comprising a main body, a sliding body, and a sliding guide module for guiding the sliding body face-to-face along the main body wherein the sliding guide module is mounted in the main body by means of a mechanism including a guide reinforcement part for stabilizing the sliding motion thereof.

**[0018]** It is still a further object of the present invention to provide a mobile terminal comprising a main body, a sliding body, and a cradle device is pivotable between said flat position and said slanted position regardless of the sliding motion of the sliding body.

**[0019]** According to an aspect of the present invention, a mobile terminal comprises a main body, a sliding body, a cradle device, and a sliding guide module. The main body has a front and a back surface. The sliding body is mounted on the main body so as to be slid face-to-face along the main body, and the sliding body has a front surface a back surface. The cradle device is connected to the sliding body so as to be pivotable between a flat position contacting the back surface of the main body and a slanted position pivoted away from the back surface of the main body for supporting the main body and the sliding body in a slanted position. The sliding guide module guides the sliding motion of the sliding body face-to-face along the main body.

**[0020]** According to another aspect of the present invention, a mobile terminal includes a main body, a sliding body opened or closed with respect to the main body, and a sliding guide module connecting the main body and the sliding body so as to hold them face-to-face. The sliding guide module comprises a guide member, a guided part mounted on the guide member so as to be guided along it, and a resilient member arranged at a given region of the guide member for restraining free sliding motion of the guided part along the guide member.

**[0021]** According to still another aspect of the present invention, there is provided a mechanism for mounting a sliding guide module for connecting a main body and a sliding body so as to hold them face-to-face. The sliding guide module has a guide member and a guided part mounted on the guide member so as to be guided along it. The mechanism comprises a guide reinforcement part for structurally reinforcing the guided part and for supporting the movement of the guide member, a first guide step integrally formed with the guided part for slidably contacting the guide reinforcement part, and a second guide step integrally formed with the guide reinforcement part so as to engage the first guide step.

## BRIEF DESCRIPTION OF THE DRAWINGS

**[0022]** The above and other objects, features, and ad-

vantages of certain exemplary embodiments of the present invention will be more apparent from the following description taken in conjunction with the accompanying drawings, in which:

FIG. 1 is a perspective view of the front surface of a mobile terminal according to an exemplary embodiment of the present invention;

FIG. 2 is a perspective view of the back surface of the mobile terminal shown in FIG. 1;

FIG. 3 is a perspective view of the mobile terminal of FIG. 1 resting in a slanted position;

FIG. 4 is a perspective view of the mobile terminal of FIG. 1 resting in a slanted position taken in an obliquely upward direction from below;

FIG. 5 is a side view of the mobile terminal of FIG. 1 resting in a slanted position;

FIG. 6 is a perspective view of the mobile terminal of FIG. 1 with a cradle device slid toward the opening direction;

FIG. 7 is a perspective view of the mobile terminal of FIG. 1 with a cradle device slid toward the opening direction and pivoted off the main body;

FIG. 8 is a perspective view of the mobile terminal of FIG. 1 resting in a slanted position after being slid;

FIG. 9 is a side view of the mobile terminal of FIG. 1 resting in a slanted position after being slid;

FIG. 10 is a perspective view of a sliding guide module mounted in the mobile terminal of FIG. 1;

FIG. 11 is a perspective view of a sliding guide module mounted in the mobile terminal of FIG. 1 with the guided part of the sliding guide module being slid toward the opening direction; and

FIG. 12 is an exploded perspective view of the sliding guide module of the mobile terminal of FIG. 1.

[0023] Throughout the drawings, the same reference numerals will be understood to refer to the same elements, features, and structures.

## DETAILED DESCRIPTION OF THE EXEMPLARY EMBODIMENTS

[0024] The matters defined in the description such as a detailed construction and elements are provided to assist in a comprehensive understanding of the embodiments of the invention and are merely exemplary. Ac-

cordingly, those of ordinary skill in the art will recognize that various changes and modifications of the embodiments described herein can be made without departing from the scope of the invention. Also, descriptions of well-known functions and constructions are omitted for clarity and conciseness.

[0025] Referring to FIGs. 1 to 9, the mobile terminal of an exemplary embodiment of the present invention comprises a main body 10, a sliding body mounted on the main body so as to be slid between opened and closed positions, a sliding guide module 30 connecting the main body 10 and sliding body 20 so as to slide the sliding body face-to-face along the main body, and a cradle device 40 for supporting the main body 10 together with the sliding body 20 in a slanted (e.g., inclined) position.

[0026] The sliding body 20 is designed so as to be slid face-to-face on the front surface 101 (shown in FIG. 8) to open or close a region of the front surface 101. The opened region of the front surface 101 may be flat and may be provided with a plurality of keys (not shown). The cradle device 40 is connected to the sliding body 20 by means of a pivot "A" (shown in FIG. 4) and is pivoted off the back surface 102 of the main body so as to support the main body together with the sliding body 20 in a slanted position on a table or other substantially horizontal plane as shown in FIGs. 3 and 5. The sliding body 20 is designed so as to slide linearly together with the cradle device.

[0027] The cradle device 40 follows the sliding motion of the sliding body 20 so as to open or close a region of the back surface 102 of the main body. The cradle device 40, as shown in FIGs. 4 and 7, is designed to be pivoted off the back surface 102 regardless of the sliding motion of the sliding body 20. Namely, the cradle device 40 is slid along with the sliding body 20 because it is fastened to the sliding body 20 by means of a pivot. The back surface 102 of the main body is opened and closed in the following two methods. First, the cradle device 40 may be pivoted about the pivot "A" away from or toward the back surface 102 so as to open or close it fully as shown in FIGs. 3 and 4. Second, the sliding body 20 along with the cradle device 40 may be slid to open or close a portion of the back surface 102 of the main body. Of course, the cradle device 40 may be pivoted to open or close fully the back surface 102 after completing the sliding motion of the sliding body.

[0028] As shown in FIG. 2, the cradle device 40 is shaped like a plate. When the cradle device 40 is closed and securely inserted in a recess 103 formed in the back surface 102 of the main body to nearly form a plane with the back surface 102. The cradle device 40 is pivoted around a pivot "A" provided at an edge 204a of the lower end 204 of the back surface of the sliding body 20, as shown in FIGs. 2 and 4. The lower end 204 of the back surface of the sliding body 20 is formed as an oblique flat end surface whose slant angle determines the support angle of the cradle 40 supporting the mobile terminal in the slanted position. The sum of the slant angle  $\theta 1$  of the

lower end 204 and the pivoting angle  $\theta_2$  is 90 degrees. As shown in FIGs. 1 and 8, the front surface 201 of the sliding body 20 is provided with at least a key 210 and a display 212 respectively arranged at the upper and lower parts thereof. The display 212 may be arranged below the key 210.

**[0029]** Referring to FIGs. 10 to 12, the sliding guide module parts 30 and 34 are symmetrically mounted in guide module housings 110 and 112 that extend along the sliding direction of the sliding body 20, so that the sliding body 20 may be stably slid face-to-face along the main body. Hereinafter, one of the sliding guide module parts 30 and 34 will be described to avoid duplicative description because the two module parts have basically the same structure.

**[0030]** The guide module part 30 comprises a guide member 31 mounted in the module housing 110, a guided part 32 for fastening the sliding body, the guided part being moved along the guide member 31, and a resilient member 33 mounted at a given region of the guide member 31 for restraining the sliding motion of the guided part 32. The guide member 31 is shaped like a rod inserted in a reception opening 321 (shown in FIG. 12) formed in the body 320 of the guided part, so that the guided part 32 may be guided along the guide member 31. The guide member 31 comprises a first and a second region 310 and 312 having different diameters, a third region 314 formed between the first and second regions 310 and 312 for stably receiving the resilient member 33, and a pair of fixture ends 316 and 318 that extend outside the first and second regions 310 and 312, respectively. The fixture ends 316 and 318 are mounted in support protuberances formed in the module housing 110.

**[0031]** The resilient member 33 is mounted in the third region 314 so as to tightly restrain the sliding motion of the guided part 32 along the guide member 31. This is to prevent the guided part 32 from freely sliding along the guide member 31 without an external force applied. The resilient member 33 may be a ring tightly mounted around the third region 314. The outer diameter of the resilient member 33 is designed to be larger than the largest diameter of the guide member 31, so that the guided part 32 is tightly held on the guide member 31. Thus, the guided part 32 can be slid by applying an external force to the resilient member 33.

**[0032]** Referring to FIGs. 10 to 12, the mechanism of mounting the sliding guide module part 30 comprises a guide reinforcement part 114 for structurally reinforcing the guided part 32 and for supporting the sliding motion of the guide member 31, a first guide step 324 integrally formed with the body 320 of the guided part 32 for slidably contacting the guide reinforcement part 114, and a second guide step 114a integrally formed with the guide reinforcement part 114 so as to engage the first guide step 324 face-to-face. The first and second guide steps 324 and 114a are designed to extend along the guided part 32 and guide reinforcement part 114, respectively. The guided part 32 further includes a fastening piece 322 that

extends lengthwise for fastening the guided part 32 to the sliding body by means of fasteners such as screws or bolts (not shown). The guided part 32 and guide member 31 are preferably formed of metal. The guide reinforcement part 114 is preferably formed integrally with the guide housing 110 by injection molding.

**[0033]** As shown in FIGs. 3 and 8, the mobile terminal that rests on a table in a slanted position (e.g., inclined) enables the user to comfortably watch the information presented on the display 212. The cradle device 40 may be pivoted off the back surface 102 of the main body by either a manual or automatic device. Of course, the automatic device is achieved by employing a conventional motor.

**[0034]** As described above, the exemplary embodiment of the present invention provides a mobile terminal with a cradle integrally formed therewith for enhancing convenience when resting the mobile terminal in a slanted position on a table. Furthermore, the exemplary embodiment of the present invention provides a resilient member for stabilizing the sliding motion of the sliding body. The first and second guide steps also stabilize the sliding motion of the sliding body.

**[0035]** While the invention has been shown and described with reference to certain embodiments thereof, it will be understood by those skilled in the art that various changes in form and details may be made therein without departing from the scope of the invention as defined by the appended claims.

## Claims

### 1. A mobile terminal comprising:

- a main body (10) having a front (101) and a back surface (102);
- a sliding body (20) mounted on said main body, said sliding body being slidable along said main body, said sliding body having a front surface (201) and a back surface (202), wherein said sliding body has an oblique flat lower end surface (204);
- a cradle device (40) connected to said sliding body, said cradle device being pivotable between a flat position contacting said back surface of said main body and a slanted position pivoted away from said back surface of said main body for supporting said main body and sliding body in a slanted position, wherein said cradle device has a pivot (A) provided at a lower edge (204a) of said back surface (204) of said sliding body; and
- a sliding guide module for guiding the face-to-face sliding motion of said sliding body along said main body, wherein said sliding body and said main body are parallel to each other and wherein the main body is be-

tween the sliding body and the cradle device.

2. The mobile terminal as defined in claim 1, wherein said front surface (201) of said sliding body is provided with at least a key (210) and a display. 5
3. The mobile terminal as defined in claim 1, wherein said cradle device (40) is openable and closable with respect to a part of a lower surface of said main body face-to-face with it by sliding said sliding body along said main body, or by pivoting between said flat position and said slanted position adapted to fully open or close said back surface (102) of said main body (10). 10
4. The mobile terminal as defined in claim 1, wherein said cradle device (40) is pivotable between said flat position and said slanted position regardless of the sliding motion of said sliding body (20). 15
5. The mobile terminal as defined in claim 1, wherein said cradle device (40) is plate-shaped. 20
6. The mobile terminal as defined in claim 1, wherein said sliding body (20) is adapted to be slid linearly. 25
7. The mobile terminal as defined in claim 1, wherein said sliding body (20) is adapted to be slide manually.
8. The mobile terminal as defined in claim 1, wherein said sliding guide module is disposed in said main body (10). 30
9. The mobile terminal as defined in claim 1, wherein when said cradle device (40) is closed, it is inserted in a recess (103) formed in a back surface of said main body (10). 35
10. The mobile terminal as defined in claim 9, wherein said cradle device (40) forms a plane with the back surface (102) when said cradle device is closed. 40
11. The mobile terminal as defined in claim 1, wherein the cradle device (40) is pivoted around a pivot (A) provided at a lower edge (204a) of said sliding body (20). 45
12. The mobile terminal as defined in claim 1, wherein a lower end of said sliding body (20) is formed as an oblique fiat end surface whose slant angle ( $\Theta_1$ ) determines the support angle ( $\Theta_2$ ) of the cradle device (40) supporting the mobile terminal in the slanted position. 50
13. The mobile terminal as defined in claim 12, wherein the sum of the slant angle ( $\Theta_1$ ) of said lower end of said sliding body (20) and a pivoting angle ( $\Theta_2$ ) of said cradle device is 90 degrees. 55

## Patentansprüche

1. Mobilendgerät, das Folgendes umfasst:

ein Hauptgehäuse (10), das eine vordere (101) und eine hintere Oberfläche (102) aufweist; ein Schiebegehäuse (20), das am Hauptgehäuse angebracht ist, wobei das Schiebegehäuse entlang dem Hauptgehäuse verschieblich ist, wobei das Schiebegehäuse eine vordere Oberfläche (201) und eine hintere Oberfläche (202) aufweist, wobei das Schiebegehäuse eine schräge ebene untere Endoberfläche (204) aufweist;

ein Ständergerät (40), das mit dem Schiebegehäuse verbunden ist, wobei das Ständergerät zwischen einer ebenen Stellung, die die hintere Oberfläche des Hauptgehäuses berührt, und einer geneigten Stellung, die von der hinteren Oberfläche des Hauptgehäuses fort geschwenkt ist, zum Stützen des Hauptgehäuses und des Schiebegehäuses in einer geneigten Stellung schwenkbar ist, wobei das Ständergerät ein Gelenk (A) aufweist, das an einem unteren Rand (204a) der hinteren Oberfläche (204) des Schiebegehäuses bereitgestellt ist; und ein Schiebeführungsmodul zum Führen der Fläche auf Fläche erfolgenden Schiebebewegung des Schiebegehäuses entlang dem Hauptgehäuse, wobei das Schiebegehäuse und das Hauptgehäuse parallel zueinander sind und wobei das Hauptgehäuse sich zwischen dem Schiebegehäuse und dem Ständergerät befindet.

2. Mobilendgerät nach Anspruch 1, wobei die vordere Oberfläche (201) des Schiebegehäuses mit mindestens einer Taste (210) und einer Anzeige versehen ist.
3. Mobilendgerät nach Anspruch 1, wobei das Ständergerät (40) in Bezug auf einen Teil einer unteren Oberfläche des Hauptgehäuses Fläche auf Fläche damit durch Schieben des Schiebegehäuses entlang dem Hauptgehäuse oder durch Schwenken zwischen der ebenen Stellung und der geneigten Stellung geöffnet und geschlossen werden kann, die ausgelegt sind, die hintere Oberfläche (102) des Hauptgehäuses (10) vollständig zu öffnen oder zu schließen.
4. Mobilendgerät nach Anspruch 1, wobei das Ständergerät (40) ungeachtet der Schiebebewegung des Schiebegehäuses (20) zwischen der ebenen Stellung und der geneigten Stellung schwenkbar ist.
5. Mobilendgerät nach Anspruch 1, wobei das Ständergerät (40) plattenförmig ist.

6. Mobilendgerät nach Anspruch 1, wobei das Schiebegehäuse (20) ausgelegt ist, linear geschoben zu werden.
7. Mobilendgerät nach Anspruch 1, wobei das Schiebegehäuse (20) ausgelegt ist, von Hand geschoben zu werden. 5
8. Mobilendgerät nach Anspruch 1, wobei das Schiebeführungsmodul im Hauptgehäuse (10) angeordnet ist. 10
9. Mobilendgerät nach Anspruch 1, wobei, wenn das Ständergerät (40) geschlossen ist, es in einer Aussparung (103) eingefügt ist, die in einer hinteren Oberfläche des Hauptgehäuses (10) gebildet ist. 15
10. Mobilendgerät nach Anspruch 9, wobei das Ständergerät (40) eine Ebene mit der hinteren Oberfläche (102) bildet, wenn das Ständergerät geschlossen ist. 20
11. Mobilendgerät nach Anspruch 1, wobei das Ständergerät (40) um ein Gelenk (A) geschwenkt wird, das an einem unteren Rand (204a) des Schiebegehäuses (20) bereitgestellt ist. 25
12. Mobilendgerät nach Anspruch 1, wobei ein unteres Ende des Schiebegehäuses (20) als schräge ebene Endoberfläche gebildet ist, deren Neigungswinkel ( $\Theta_1$ ) einen Stützwinkel ( $\Theta_2$ ) des Ständergerätes (40) bestimmt, das das Mobilendgerät in der geneigten Stellung stützt. 30
13. Mobilendgerät nach Anspruch 12, wobei die Summe des Neigungswinkels ( $\Theta_1$ ) des unteren Endes des Schiebegehäuses (20) und eines Schwenkwinkels ( $\Theta_2$ ) des Ständergerätes 90 Grad ist. 35

#### Revendications

##### 1. Terminal mobile comprenant :

un corps principal (10) comportant une surface avant (101) et une surface arrière (102) ; 45  
 un corps coulissant (20) monté sur ledit corps principal, ledit corps coulissant pouvant coulisser le long dudit corps principal, ledit corps coulissant comportant une surface avant (201) et une surface arrière (202), dans lequel ledit corps coulissant comporte une surface d'extrémité inférieure plate oblique (204) ;  
 un dispositif de support (40) relié au dit corps coulissant, ledit dispositif de support pouvant pivoter entre une position plate en contact avec ladite surface arrière dudit corps principal et une position inclinée pivotée à l'écart de ladite surface arrière dudit corps principal pour soutenir 50

ledit corps principal et ledit corps coulissant à une position inclinée, dans lequel ledit dispositif de support comporte un pivot (A) prévu à un bord inférieur (204a) de ladite surface arrière (204) dudit corps coulissant ; et  
 un module de guide coulissant pour guider le mouvement de coulisement face à face dudit corps coulissant le long dudit corps principal, dans lequel ledit corps coulissant et ledit corps principal sont parallèles l'un à l'autre et dans lequel le corps principal se trouve entre le corps coulissant et le dispositif de support.

2. Terminal mobile selon la revendication 1, dans lequel ladite surface avant (201) dudit corps coulissant est pourvue d'au moins une touche (210) et d'un affichage.
3. Terminal mobile selon la revendication 1, dans lequel ledit dispositif de support (40) peut être ouvert et fermé par rapport à une partie d'une surface inférieure dudit corps principal face à face avec celle-ci en faisant coulisser ledit corps coulissant le long dudit corps principal, ou en pivotant entre ladite position plate et ladite position inclinée adaptée pour ouvrir ou fermer complètement ladite surface arrière (102) dudit corps principal (10).
4. Terminal mobile selon la revendication 1, dans lequel ledit dispositif de support (40) peut pivoter entre ladite position plate et ladite position inclinée indépendamment du mouvement de coulisement dudit corps coulissant (20).
5. Terminal mobile selon la revendication 1, dans lequel ledit dispositif de support (40) est en forme de plaque.
6. Terminal mobile selon la revendication 1, dans lequel ledit corps coulissant (20) est adapté pour coulisser linéairement. 40
7. Terminal mobile selon la revendication 1, dans lequel ledit corps coulissant (20) est adapté pour coulisser manuellement. 45
8. Terminal mobile selon la revendication 1, dans lequel ledit module de guide coulissant est disposé dans ledit corps principal (10).
9. Terminal mobile selon la revendication 1, dans lequel, lorsque ledit dispositif de support (40) est fermé, il est inséré dans un évidement (103) formé dans une surface arrière dudit corps principal (10).
10. Terminal mobile selon la revendication 9, dans lequel ledit dispositif de support (40) forme un plan avec la surface arrière (102) lorsque ledit dispositif 55

de support est fermé.

11. Terminal mobile selon la revendication 1, dans lequel le dispositif de support (40) est pivoté autour d'un pivot (A) prévu à un bord inférieur (204a) dudit corps coulissant (20). 5
12. Terminal mobile selon la revendication 1, dans lequel une extrémité inférieure dudit corps coulissant (20) est formée en tant qu'une surface d'extrémité plate oblique dont l'angle d'inclinaison ( $\theta_1$ ) détermine l'angle de soutien ( $\theta_2$ ) du dispositif de support (40) soutenant le terminal mobile à la position inclinée. 10
13. Terminal mobile selon la revendication 12, dans lequel la somme de l'angle d'inclinaison ( $\theta_1$ ) de ladite extrémité inférieure dudit corps coulissant (20) et d'un angle de pivotement ( $\theta_2$ ) dudit dispositif de support est 90 degrés. 15 20

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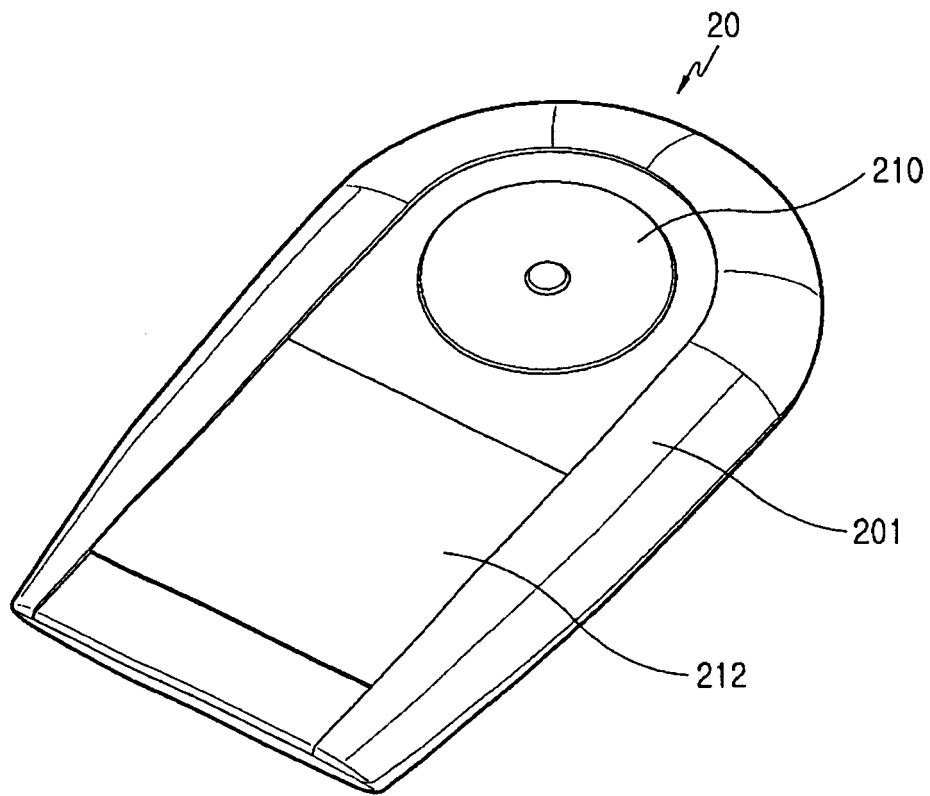


FIG.1

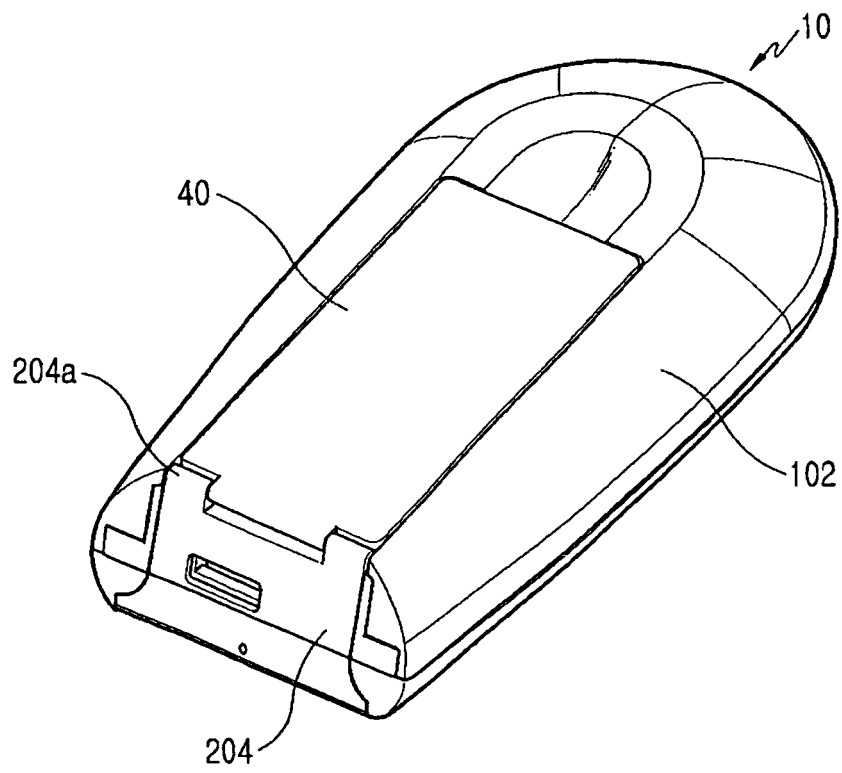


FIG. 2

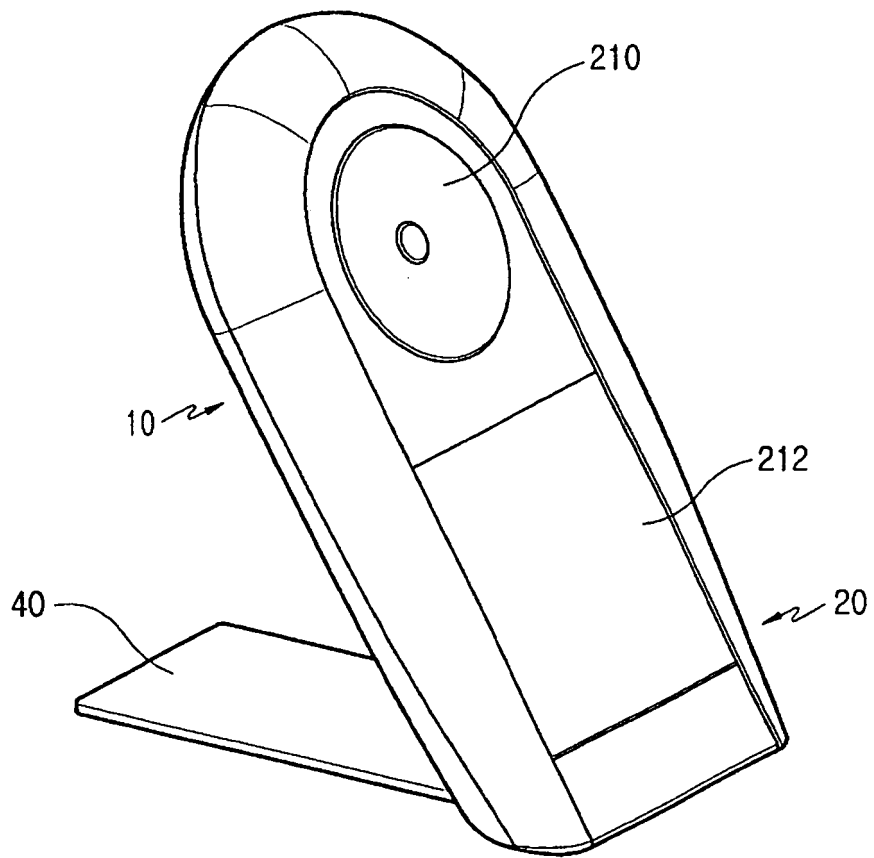


FIG.3

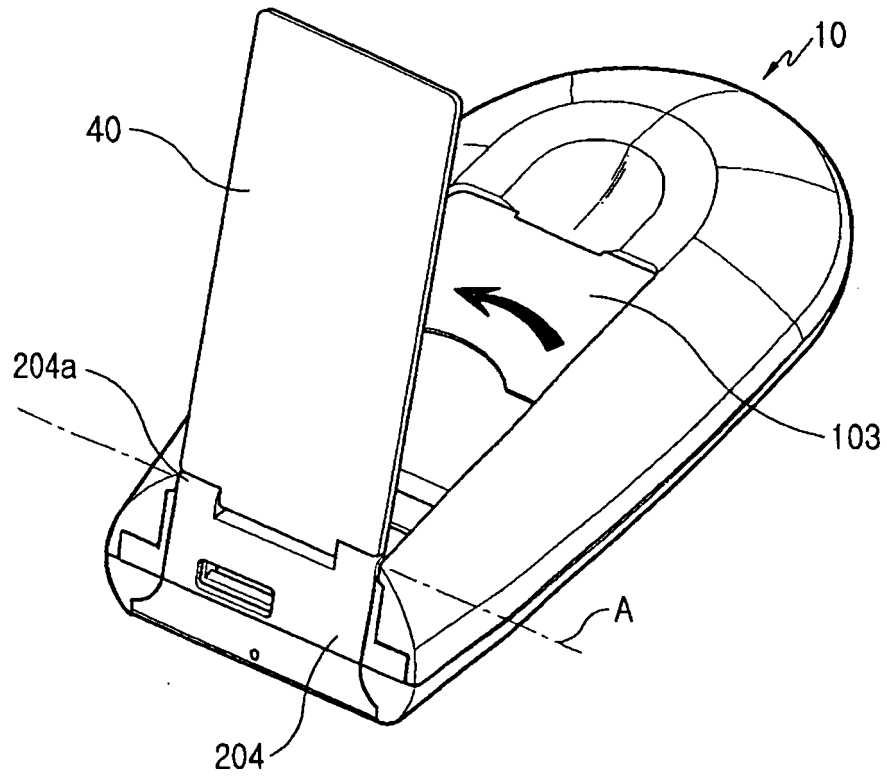


FIG.4

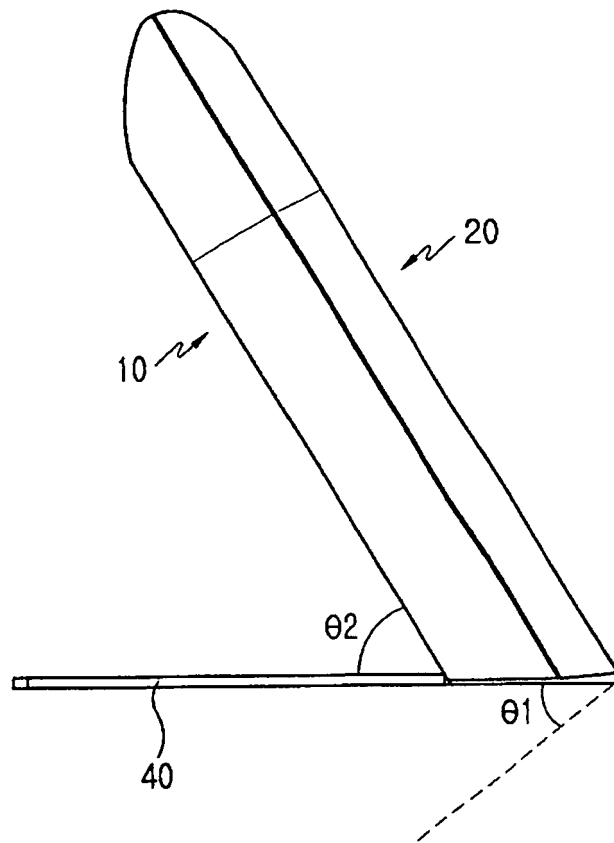


FIG.5

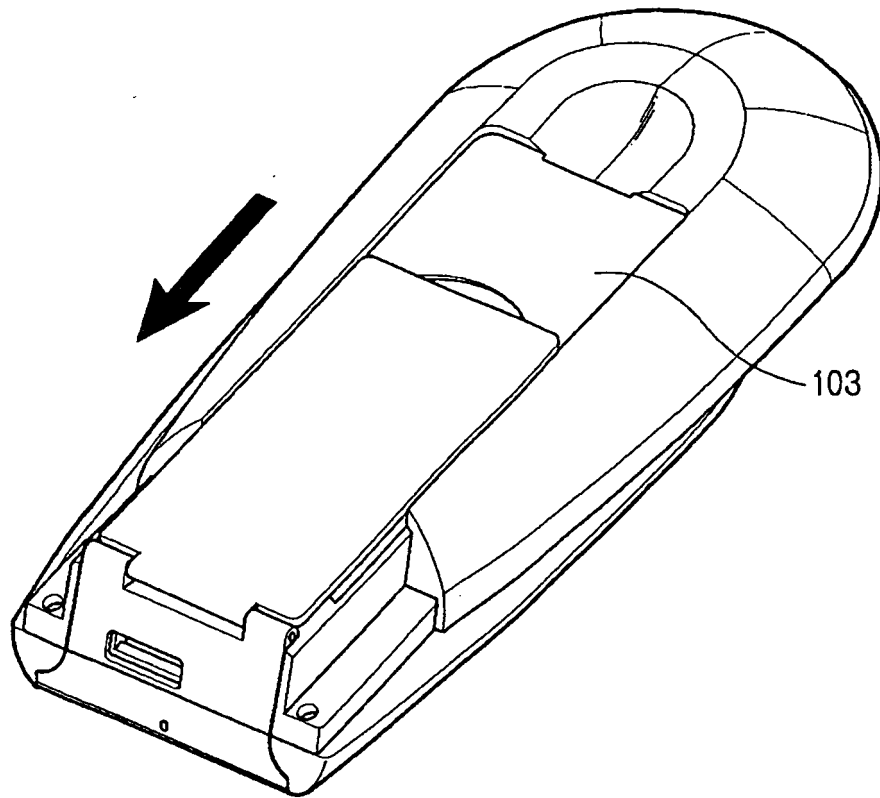


FIG. 6

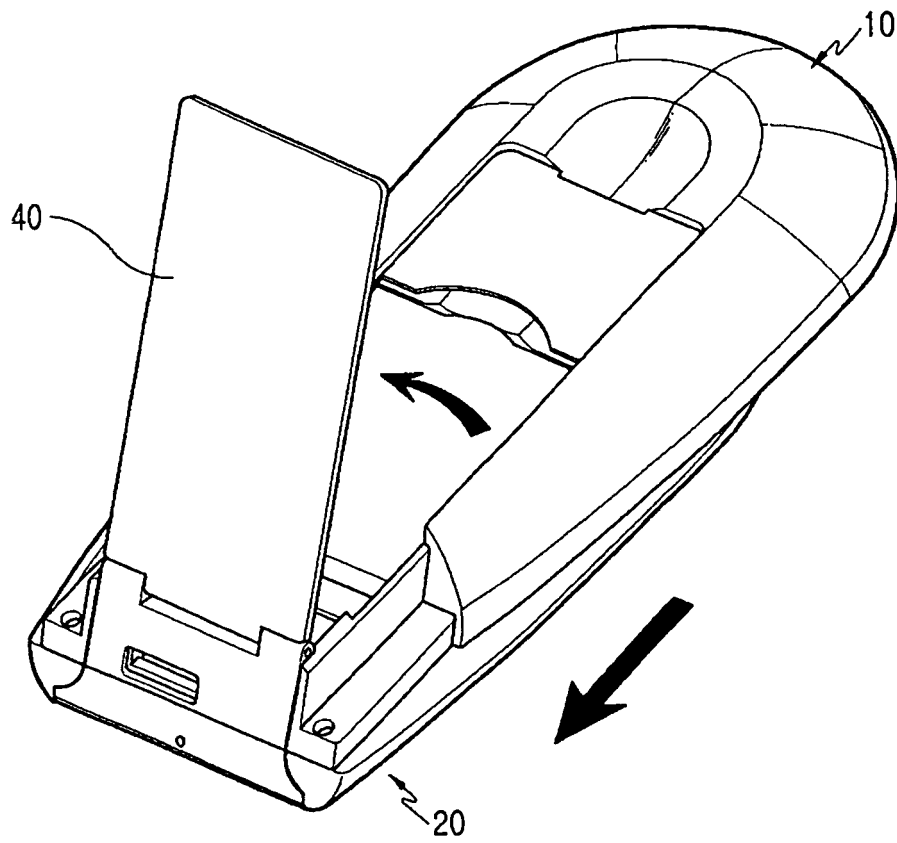


FIG. 7

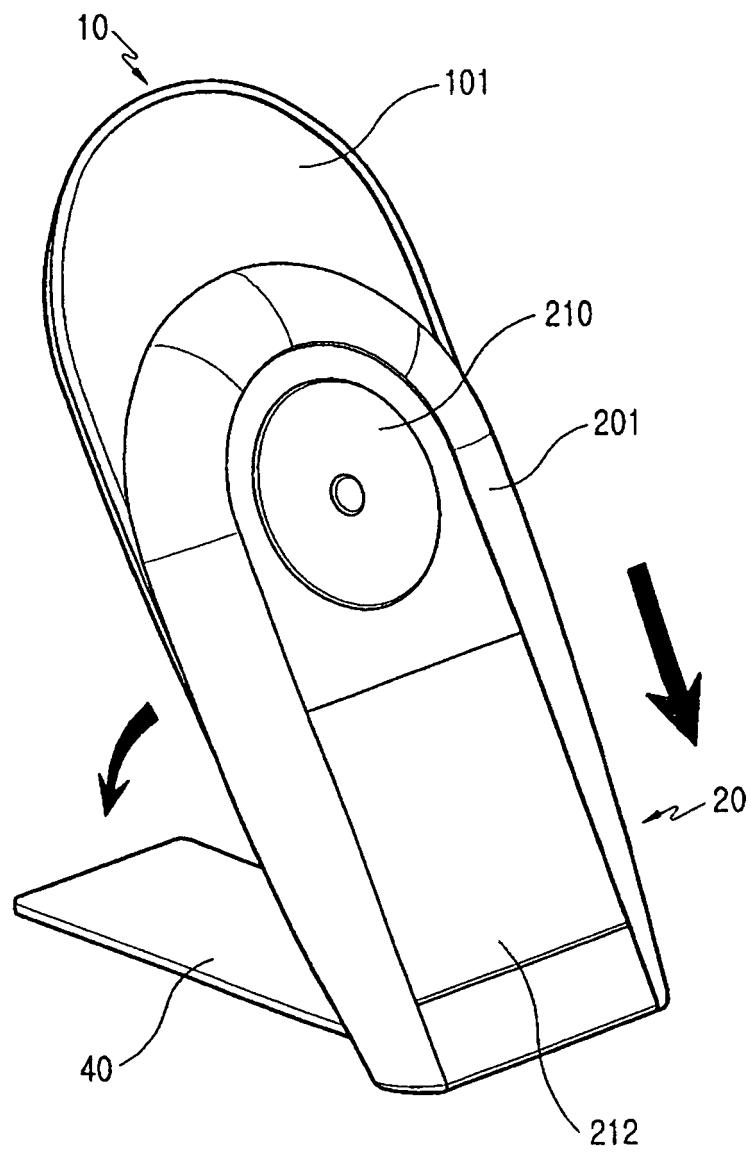


FIG. 8

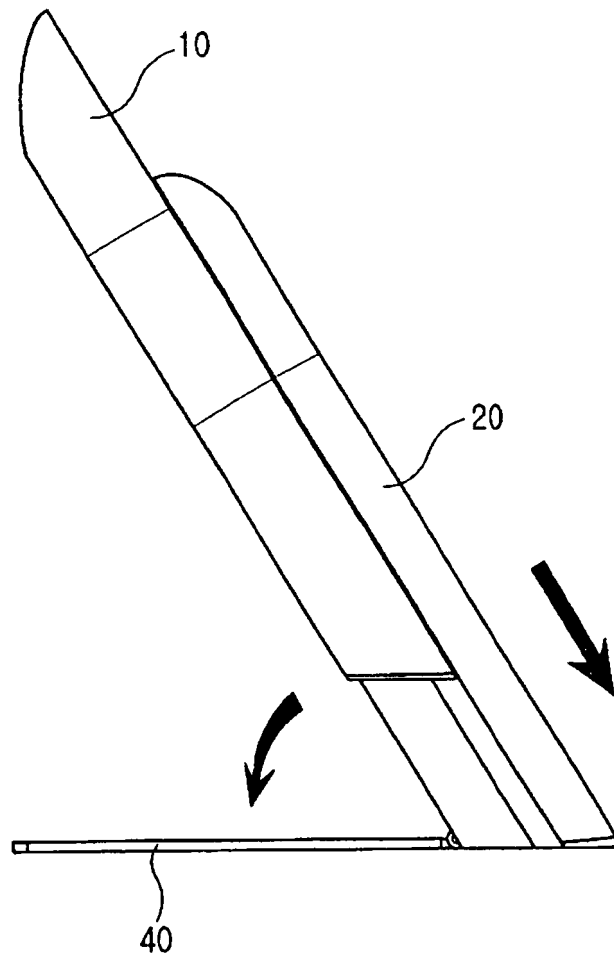


FIG.9

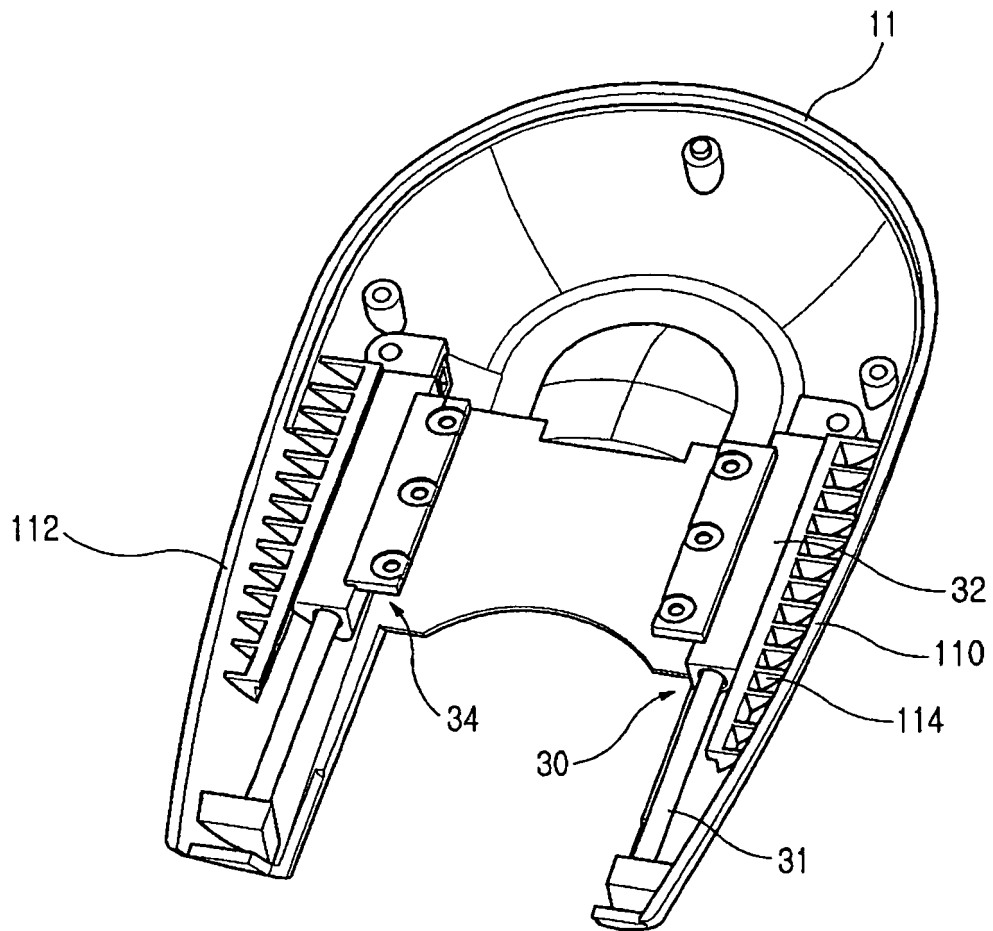


FIG.10

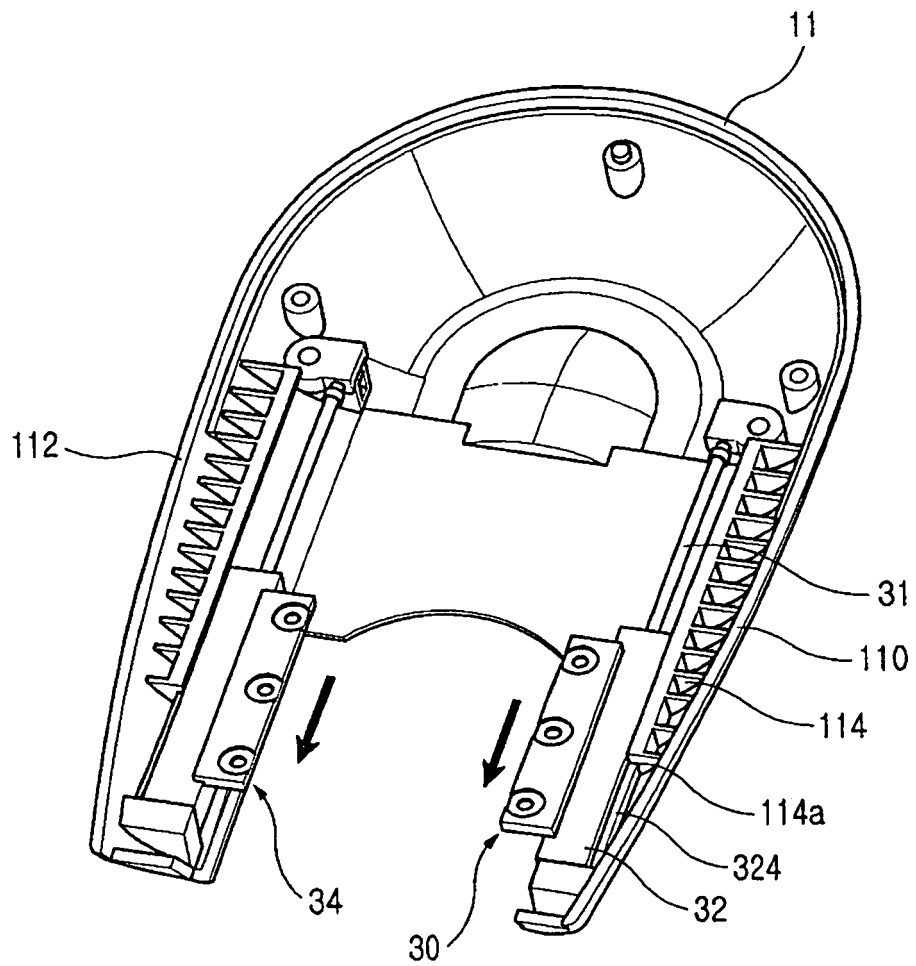


FIG.11

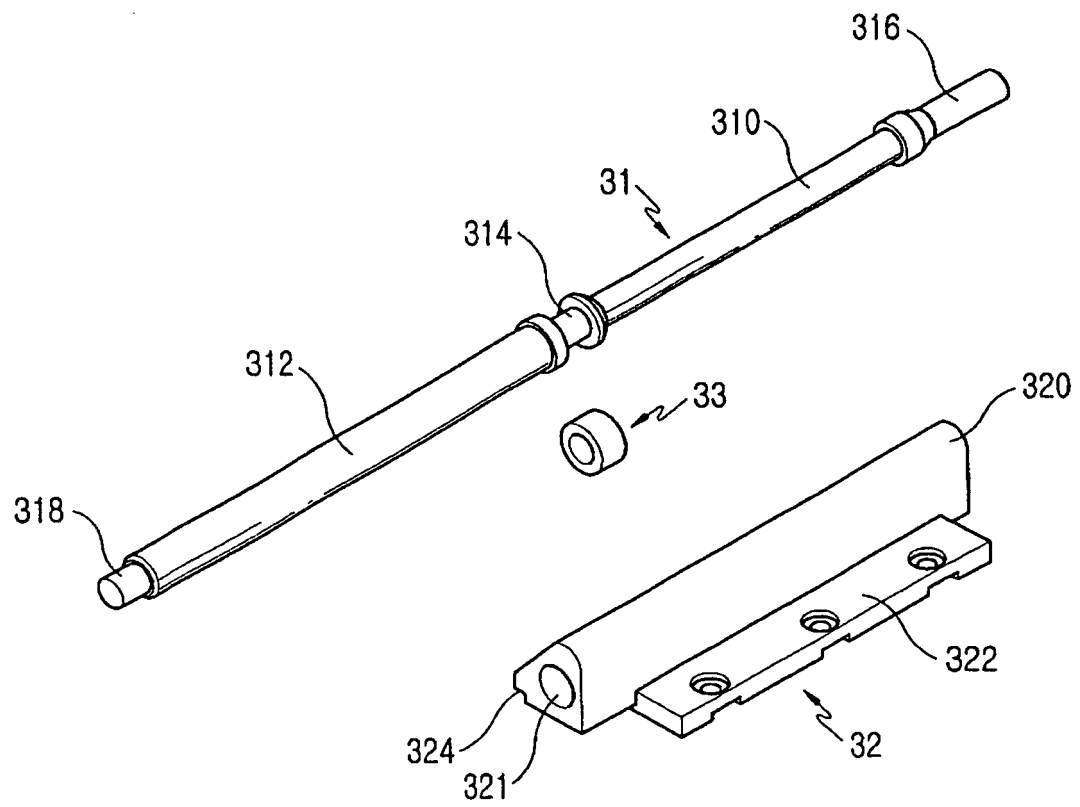


FIG.12

**REFERENCES CITED IN THE DESCRIPTION**

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